



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,550	04/14/2004	Mark E. Pecen	CS24618RA	6417

20280 7590 02/26/2007
MOTOROLA INC
600 NORTH US HIGHWAY 45
ROOM AS437
LIBERTYVILLE, IL 60048-5343

EXAMINER

LU, ZHIYU

ART UNIT	PAPER NUMBER
----------	--------------

2618

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/824,550	PECEN ET AL.	
	Examiner	Art Unit	
	Zhiyu Lu	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 01/09/2007 have been fully considered but they are not persuasive.

Regarding rejections of claims 1 and 22, Applicants have argued that Kallio fails to teach obtaining a "... measure of mobility..." of a wireless communication device and "... monitoring a first system while selected to a second system only if the measure of mobility exceeds a mobility threshold."

However, the Examiner does not agree with the Applicants. Applicants did not specify what mobility indicates, so in Kallio's case, mobility is transmission level, quality of the link. And Kallio teaches obtaining measurement of link quality in paragraph 0041. In paragraph 0048, Kallio teaches switching off the GSM side and selecting WLAN side if the WLAN rx-level is higher than the upper threshold value. Also, Kallio teaches starting or continuing taking measurement from GSM side in paragraphs 0035-0039 when camping on WLAN. Thus, the rejection is proper and maintained.

Regarding rejection of claim 10, Applicants have argued that Kallio fails to teach "... comparing a mobility measurement of the wireless communications device to a mobility threshold...", "... monitoring a cellular communications network if the mobility measurement is greater than a mobility threshold...", and "... not monitoring the cellular communications network if the mobility measurement is not greater than the mobility threshold."

However, the Examiner does not agree with the Applicants. As explained in the response to argument on claim 1 rejection above, Kallio teaches "... comparing a mobility measurement of the wireless communications device to a mobility threshold..." and "... monitoring a cellular communications network if the mobility measurement is greater than a mobility threshold...". As for "... not monitoring the cellular communications network if the mobility measurement is not greater than the mobility threshold", it would have been obvious to one of ordinary skill in the art to recognize the purpose of monitoring is to determine whether the network has a good signal for connection. Moreover, it would have been obvious to one of ordinary skill in the art to recognize that there is no point of continue monitoring a network that doesn't offer better connection quality and modify the method to stop monitoring a network has lower measurement than the threshold, in order to save processing resources. Therefore, the rejection is proper and maintained.

Regarding rejection of claim 16, Applicants have argued that Kallio fails to teach "regression line error information based on broadband wireless network signal measurements" and Chheda et al. do not teach that either, where the term "regression" does not appear therein either.

However, the Examiner does not agree with the Applicants. Line regression is a regression method of modeling the conditional expected value of one value given the values of some other variables. So determining regression line error information based on broadband wireless network signal measurements is just to take the error rate. According to the filed specification, Applicants' claim is about triggering a handover to a cellular network if measured error rate is greater than an error rate tolerable threshold. And Chheda et al. teach triggering of handover is

Art Unit: 2618

due to measured error rate exceeding a threshold. And monitoring before handover is well known to one of ordinary skill in the art and also disclosed by Kallio. Thus, the rejection is proper and maintained.

Regarding rejection of claim 20, Applicants have argued that neither Kallio nor Stoter et al. teach “a dynamic threshold compensates for changes in regression error of the signal measurements on the second wireless communications system.”

However, the Examiner does not agree with the Applicants. As explained in response to argument on claim 16 above, regression line error is what error rate is about. And Stoter et al. teach a dynamic threshold compensates for changes in regression error of the signal measurements on the second wireless communications system (column 3 line 44 to column 4 line 27, especially column 3 lines 44-57). Thus, the rejection is proper and maintained.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3-5, 7-8 and 22-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Kallio (US2002/0147008).

Art Unit: 2618

Regarding claim 1, Kallio anticipates a method in a wireless communications device, the method comprising:

obtaining a measure of mobility of the wireless communications device (paragraphs 0040-0041);

monitoring a first system while selected to a second system only if the measure of mobility exceeds a mobility threshold (paragraph 0048).

Regarding claim 3, Kallio anticipates the limitation of claim 1.

Kallio also anticipates monitoring the first system includes obtaining a signal measurement from the first system and synchronizing with the first system (paragraphs 0012-0013).

Regarding claim 4, Kallio anticipates the limitation of claim 1.

Kallio also anticipates selecting the first system if a signal measurement of the second system drops below a second system lower threshold (paragraph 0048).

Regarding claim 5, Kallio anticipates the limitation of claim 1.

Kallio also anticipates selecting the first system and deselecting the second system if the signal measurement of the second system drops below a second system lower threshold (paragraph 0048), re-selecting the second system if the signal measurement of the second system exceeds a second system upper threshold for a predetermined time period (a period of four measurement reports, paragraph 0013) after selecting the first system (paragraphs 0047-0048).

Art Unit: 2618

Regarding claim 7, Kallio anticipates the limitation of claim 1.

Kallio also anticipates obtaining the measure of mobility based information obtained while selected to the second system (paragraph 0012), on cell selection monitoring the first system while selected to the second system only if the measure of mobility exceeds the mobility threshold (paragraph 0013).

Regarding claim 8, Kallio anticipates the limitation of claim 1.

Kallio also anticipates the second system is a cellular system, obtaining the measure of mobility based on number of different cells selected while selected to the second system (paragraphs 0012-0013).

Regarding claim 22, Kallio anticipates a method in a wireless communications device, the method comprising:

- obtaining a measure of mobility of the wireless communications while selected to a cellular wireless communications system (paragraphs 0040-0041);

- monitoring for a broadband wireless communications system while selected to the cellular wireless communications system only if the measure of mobility exceeds a mobility threshold (paragraph 0048).

Regarding claim 23, Kallio anticipates the limitation of claim 22.

Kallio also anticipates obtaining the measure of mobility based on changes in a universe of different cells selected while selected to the second system (paragraph 0039).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 6, 10 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kallio (US2002/0147008).

Regarding claim 6, Kallio teaches the limitation of claim 5.

Kallio also teaches monitoring the first system after reselecting the second system (paragraphs 0012-0013, 0048).

But, Kallio does not expressly disclose discontinuing monitoring the first system if the measure of mobility is not greater than the mobility threshold.

However, it would have been obvious to one of ordinary skill in the art to recognize that there is no point of monitoring a system that does not provide efficient mobility since the purpose of monitoring is to look for a network can provide better mobility service.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Kallio into discontinuing monitoring a network with mobility measurement lower than the threshold, in order to save processing resources.

Art Unit: 2618

Regarding claim 10, Kallio teaches a method in a hybrid wireless communications device, the method comprising:

comparing a mobility measurement of the wireless communications device to a mobility threshold while connected to a broadband wireless network (paragraphs 0012-0013);

monitoring a cellular communications network if the mobility measurement is greater than a mobility threshold (paragraphs 0036-0037).

But, Kallio does not expressly disclose not monitoring the cellular communications network if the mobility measurement is not greater than the mobility threshold.

However, it would have been obvious to one of ordinary skill in the art to recognize that there is no point of monitoring a system that does not provide efficient mobility since the purpose of monitoring is to look for a network can provide better mobility service.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Kallio into discontinuing monitoring a network with mobility measurement lower than the threshold, in order to save processing resources.

Regarding claim 13, Kallio teaches the limitation of claim 10.

Kallio also teaches selecting the cellular communications network if a signal measurement on the broadband wireless network is less than a lower threshold (paragraphs 0040 and 0048).

Regarding claim 14, Kallio teaches the limitation of claim 13.

Kallio also teaches selecting the broadband wireless network if the signal measurement on the broadband wireless network is greater than or equal to an upper threshold for a specified time

period (paragraph 0013), remaining on the cellular communications network if the signal measurement on the broadband wireless network is not greater than or equal to the upper threshold for the specified time period (paragraph 0013).

4. Claims 2, 9, 11, 15 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kallio (US2002/0147008) in view of Stoter et al. (US Patent#7092710).

Regarding claims 2 and 11, Kallio teaches the limitations of claims 1 and 10.

But, Kallio does not expressly disclose obtaining the measure of mobility based on a regression error of a signal measurement on the second system.

Stoter et al. teach obtaining the measure of mobility based on a regression error of a signal measurement on the system (column 3 line 44 to column 4 line 27).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate obtaining the measure of mobility based on a regression error of a signal measurement taught by Stoter et al. into the method of Kallio, in order to determine mobility in related to error measurement.

Regarding claim 20, Kallio teaches a method in a wireless communications device operable on first and second wireless communications systems, the method comprising:

operating on the first wireless communications system (paragraph 0012);

making signal measurements on the second wireless communications system (paragraph 0012);

selecting the second wireless communications system if signal measurements on the second wireless communications system exceeds a threshold for a specified time period (paragraph 0013).

But, Kallio does not expressly disclose a dynamic threshold compensates for changes in regression error of the signal measurements on the second wireless communications system.

Stoter et al. teach a dynamic threshold compensates for changes in regression error of the signal measurements on the second wireless communications system (column 3 line 44 to column 4 line 27).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate having a dynamic threshold as taught by Stoter et al. into the method of Kallio, in order to determine mobility in related to error measurement.

Regarding claims 9 and 21, Kallio and Stoter et al. teach the limitations of claims 2 and 20.

Stoter et al. also teach obtaining the signal measurement based on any one of a received signal strength indication, bit error rate information, and block erasure rate information (column 3 lines 44-48).

Regarding claim 15, Kallio teaches the limitation of claim 11.

But, Kallio does not expressly disclose obtaining the signal measurement based on any one of a received signal strength indication, bit error rate information, and block erasure rate information.

Stoter et al. also teach obtaining the signal measurement based on any one of a received signal strength indication, bit error rate information, and block erasure rate information (column 3 lines 44-48).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate received signal strength as measurement taught by Stoter et al. into the method of Kallio, in order to determine network efficiency.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kallio (US2002/0147008) in view of Stoter et al. (US Patent#7092710) and Riley (US2004/0203880).

Regarding claim 12, Kallio and Stoter et al. teach the limitation of claim 11.

But, Kallio and Stoter et al. do not expressly disclose determining the mobility measurement based on a root mean square of the regression error information.

Riley teaches taking link strength measurement with root mean square process (paragraph 0113).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate root mean square process taught by Riley into the modified method of Kallio and Stoter et al., in order to minimize measurement errors.

6. Claims 16 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kallio (US2002/0147008) in view of Chheda et al. (US2003/0114162).

Art Unit: 2618

Regarding claim 16, Kallio teaches a method in a wireless communications device capable of communicating in a cellular communications network and in a broadband wireless network, the method comprising:

determining handover request based on broadband wireless network signal measurement (paragraph 0012);

monitoring a cellular communications network if the signal measurement is lower than a threshold (paragraph 0048);

But, Kallio does not expressly disclose determining regression line error information based on broadband wireless network signal measurement; monitoring a cellular communications network if the error information is greater than a threshold; not monitoring the cellular communications network if the error information is not greater than the threshold.

Chheda et al. teach determining regression line error information based on broadband wireless network signal measurement (paragraph 0024), where monitoring a cellular communication network before handover would have been well known to one of ordinary skill in the art and also disclosed by Kallio (paragraph 0048).

And it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Kallio into discontinuing monitoring saving resources since there would be no intention of making a handover if the current network is having good link quality.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate error measurement in handover triggering taught by Chheda et al. into the modified method of Kallio, in order taking poor link quality into triggering handover consideration.

Regarding claim 18, Kallio and Chheda et al. teach the limitation of claim 16.

Kallio also teaches selecting the cellular communications network if a signal measurement on the broadband wireless network is less than a lower threshold (paragraphs 0040 and 0048).

Regarding claim 19, Kallio and Chheda et al. teach the limitation of claim 18.

Kallio also teaches selecting the broadband wireless network if the signal measurement on the broadband wireless network is greater than or equal to an upper threshold for a specified time period (paragraph 0013), remaining on the cellular communications network if the signal measurement on the broadband wireless network is not greater than or equal to the upper threshold for the specified time period (paragraph 0013).

7. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kallio (US2002/0147008) in view of Chheda et al. (US2003/0114162) and Riley (US2004/0203880).

Regarding claim 17, Kallio and Chheda et al. teach the limitation of claim 16.

But, Kallio and Chheda et al. do not expressly disclose determining the mobility measurement based on a root mean square of the regression error information.

Riley teaches taking link strength measurement with root mean square process (paragraph 0113).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate root mean square process taught by Riley into the modified method of Kallio and Chheda et al., in order to minimize measurement errors.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zhiyu Lu whose telephone number is (571) 272-2837. The examiner can normally be reached on Weekdays: 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2618

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Zhiyu Lu
February 16, 2007

 2/20/07

QUOCHIEN B. VUONG
PRIMARY EXAMINER